

# ITEMS

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## THE PROBLEM OF SOCIAL SCIENCE PERSONNEL:

### RECRUITMENT OR TRAINING?

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THERE is a prevailing belief that too few students of high ability choose social sciences as their fields of concentration. In the light of some recently assembled data it appears that this belief may be set aside as unrealistic, for the present at least, and that efforts to accelerate the progress of social science should be directed mainly toward removing deficiencies of college and university training rather than toward recruitment.

How to improve social science training is a problem outside the principal focus of this article, which seeks simply to demonstrate that despite numerous factors in contemporary culture that tend to attract or propel talented youths into other fields, the actual student bodies of social science departments of American colleges and universities include large numbers of students who, judging by various indices of ability and scholastic achievement, are capable of accomplishing much more than they are being taught to accomplish. In relation to the magnitude of the social problems which demand solution, the supply of talent among social science students is indeed painfully small; but viewed in relation to the training resources now available or likely to become available in the near future, it is relatively large.

There is a further cogent reason why improving curricula and extracurricular training in social sciences should take priority at present over schemes for recruiting more innately gifted students: Recruitment and

selection of students are in large measure determined by the training process itself. Unplanned and often unconscious selection and recruitment take place throughout the educational system from the time pupils enter the primary grades until a few of them years later decide to pursue graduate studies in certain fields. These processes are supplemented and sometimes offset by deliberate selection through academic examinations, and to a lesser extent by active recruitment for particular careers—witness for example the practice of offering selected high-school seniors financial incentives to enroll in college programs of the armed forces. But the intrinsic interest of a course of study and the attractiveness of the vocational opportunities to which it leads remain the chief positively selective factors.

For practical purposes, consideration of the quality of potential recruits to the ranks of social science research personnel can begin at the undergraduate college level. Sometime in the future, if educational practices change greatly and vocational guidance becomes more effective, it may be pertinent to extend the inquiry to lower scholastic levels, but for the present and visible future we shall have to exclude those who fail to go to college from the universe with which we are concerned.

Some round figures, which are subject to wide errors, will give a general idea of the numbers of students at successive levels from which social scientists are recruited. In 1939-40 about 85,000 bachelors' degrees in arts and sciences were conferred by American colleges.<sup>1</sup>

\* This article presents some findings from the author's study of factors affecting the recruitment, selection, and training of social scientists. A general report on the study is in preparation.

<sup>1</sup> U. S. Office of Education, *Biennial Survey of Education*.

Of these graduates perhaps 25,000 had majored in social disciplines.<sup>2</sup> Perhaps between 3,000 and 4,000 took some graduate study in these fields, and 600 or 800 took doctors' degrees.<sup>3</sup>

This article began with the assertion that among the undergraduates and graduate students who are specializing in social disciplines there are a sufficient number of high ability to supply more and better social scientists, given suitable guidance and training. Before examining some statistics in support of that assertion, it will be well to consider what kinds of ability are needed and how they can be measured or their presence at least detected.

In appraising the inherent ability of potential recruits for its corps of research workers, as distinguished from their acquired knowledge, social science is in somewhat the position of a manufacturer who wants to use superior raw materials but has not in mind any very specific criteria of what would constitute the best materials for his particular product. Some general criteria are self-evidently valid. Any intellectual occupation calls for intelligence; any occupation at all calls for at least a modicum of vitality.

Intelligence, however, is not generally believed to be a simple unitary trait, susceptible to measurement by a single yardstick. Certain traits embraced within the nebulous sphere of general intelligence may be indispensable to success as a social scientist, while others are less important or even irrelevant; but the specific traits have not been isolated. Moreover, the problem of selection is complicated by the fact that some of the symptoms of intelligence which are measured by mental tests are evidently innate and presumably hereditary, while others are largely determined by postnatal influences including schooling. The problem of selecting leaders for the next generation's work in social science would be greatly simplified if there were available psychometric tests which would detect in a latent state some specific aptitudes. For the present, psychometric test scores can only provide clues which are useful when considered in conjunction with other evidence.

There are imponderable factors of personality and motivation which, if they are unfavorable, may offset the advantages of intellectual superiority. As to these characteristics of students, quantitative data are lacking and the testimony of experienced academic observers is not fully consistent. Not infrequently the scarcity of in-

dividuals with obvious gifts of leadership among social science graduate students is deplored. A graduate dean has observed that failure to reach satisfactory social adjustment at home and in their own communities seems to be responsible for the presence of a large part of the students in the social science division of his school. It is possible to speculate, however, that social maladjustment may be equally prevalent among students who immerse themselves in laboratories and thus escape the problems of social life, as it is among those who hope by becoming economists or sociologists to master the problems which have brought them personal frustration.

In any case we do not yet know enough about human motivation to say to what extent the motives which initially prompt one to choose a given vocation may affect his capacity for ultimate achievement. Leaving aside those whose personalities are so neurotic as to interfere with any constructive activity, we can not predict that "born leaders" are more likely to contribute significantly to the advancement of science than are persons of less dominant temperament.

It is sometimes argued that the social sciences would gain a greater measure of much needed financial and moral support from the public if their personnel included larger numbers of individuals of superior social status. But any effort to recruit future research workers from particular social groups or strata would be likely to involve lowering standards of intellectual competence. Our survey has revealed no appreciable differences in the social origins of graduate students in social disciplines and in natural sciences, as far as these are indicated by their parents' occupations. Of both groups, roughly three tenths come from professional parents, four tenths from parents engaged in business—evidently mostly small businessmen—and one tenth each from parents who are farmers, manual laborers, and members of other miscellaneous occupational groups. There are no satisfactory data on the proportions of graduate students drawn from racial and ethnic minority groups, but it is probably true that college graduates in these groups relatively frequently aspire to academic or scientific careers.

Analysis of the individual personality factors associated with aptitude for scientific work is a subject on which intensive research needs to be done and on which for the time being judgment must be suspended. As one psychologist who has long been prominent in the development of psychometrics recently observed, the best way to pick a promising research assistant is to observe his actual work in that capacity. His remark suggests, incidentally, an important need for a kind of undergraduate college courses in which students can discover for them-

<sup>2</sup> Estimated from proportions majoring in different fields as reported in a National Roster of Scientific and Specialized Personnel survey of December 1942.

<sup>3</sup> *Doctoral Dissertations Accepted by American Universities* (New York: H. W. Wilson Company, published annually).

selves what research in the social sciences is like, and in which the teachers can identify those students who ought to be encouraged to go on to advanced study.

In assessing the qualifications of students for advanced work in social science, we shall have to be guided for the time being mostly by their overt achievements. The more directly relevant an individual's past achievements, the greater the assurance with which his capacity for further development in a given direction can be judged. We shall therefore draw largely on data reflecting their general academic standing, assuming that high scholastic standing is as a rule indicative of generally high capacity for further achievement in intellectual work. If in addition to winning general scholastic honors an individual is specializing in some field of the social disciplines, we may further assume that he is at least interested in subjects with which social science deals. Some results of standardized tests will also be adduced as collateral evidence.

#### THE DISTRIBUTION OF ABILITY AMONG UNDERGRADUATES

Most of those who become full-fledged social scientists<sup>4</sup> have majored in some social discipline as undergraduates. Most of the graduate students in the leading universities have taken their bachelors' degrees in colleges whose standards are above the general average. The comparative distributions of general academic ranks of undergraduates in the several departments of five high-standing colleges should therefore throw some light on the quality of potential social scientists at the undergraduate stage. Table I shows segments of these distributions for a sample of members of the classes receiving the bachelor's degree at Amherst, Brown, Harvard, and Oberlin in 1938 and 1946, or completing the two college years at the University of Chicago in 1938.<sup>5</sup>

The two middle columns of figures in Table I show that among the college graduates surveyed, there were more high-ranking major students in social disciplines than in either the natural sciences or the humanities. This is true both of students who stood in the highest 7½ percent of their classes and of all those who stood in

TABLE I

UNDERGRADUATE MAJORS, BY RANKS, IN FIVE SELECTED COLLEGES

	Total	Out-standing <sup>a</sup>	Superior <sup>b</sup>	Mediocre & inferior <sup>c</sup>
All fields	1999 <sup>d</sup>	148	533	1308
<i>Divisions</i>				
Social disciplines <sup>d</sup>	765 <sup>k</sup>	53	195	515
Mathematics and natural sciences	391 <sup>m</sup>	37	145	206
Humanities <sup>e</sup>	479 <sup>m</sup>	38	125	313
All other fields <sup>f</sup>	364 <sup>k</sup>	20	68	274
<i>Selected departments<sup>g</sup></i>				
Economics	241 <sup>n</sup>	14	57	169
Government	105 <sup>n</sup>	3	30	71
History	116	10	30	76
Psychology	59	4	15	40
Sociology	57	3	9	45
Mathematics and physics <sup>h</sup>	78	15	25	38
Biology	175 <sup>m</sup>	9	63	100
Chemistry	54	6	23	25
Languages and literature	305 <sup>m</sup>	28	74	200
Business administration	60	1	9	50
Engineering	78 <sup>n</sup>	6	10	61

<sup>a</sup> Highest ranking 7½ percent of students.

<sup>b</sup> Next highest 26½ percent of students.

<sup>c</sup> Lowest ranking 66 percent of students.

<sup>d</sup> "Social disciplines" here includes anthropology, economics, geography, government, history, psychology, and sociology.

<sup>e</sup> "Humanities" is here construed to include languages.

<sup>f</sup> Chiefly vocational and pre-professional.

<sup>g</sup> Departments represented by less than 50 students omitted.

<sup>h</sup> 48 in mathematics and 30 in physics.

<sup>i</sup> Including 10 of unknown rank.

<sup>j</sup> Including 3 of unknown rank.

<sup>k</sup> Including 2 of unknown rank.

<sup>l</sup> Including 1 of unknown rank.

the top third.<sup>6</sup> It is thus evident that there is no absolute lack of highly capable undergraduate students in the social disciplines. On the other hand, the figures in the last column of Table I show that the number of mediocre and inferior students in social disciplines is fully twice as great as in the natural sciences, and substantially larger than the number in the humanities.

With the figures from the five colleges may be compared data on a random sample of 458 recent graduates of the college of arts and sciences in a middle-western state university. These data are summarized in Table II. Here again, it appears that the social disciplines have attracted a reasonable number of high-ranking students,

<sup>4</sup> About four fifths of graduate students in social disciplines have majored in a social discipline as undergraduates. The term *social disciplines* as used in this article denotes a number of academic subjects not all aspects of which can be strictly described as *social science*.

<sup>5</sup> The various indices of scholastic standing reported by the several institutions have been roughly converted into percentile-rank intervals.

The cooperation of the college and university officers who helped to assemble these and other data presented in this article is gratefully acknowledged.

<sup>6</sup> As indicated in footnotes to Table I, history and psychology have been included among the social disciplines. But even if one half of the students majoring in history were allocated to the humanities and one half of those in psychology to the natural sciences, the statement would still be valid. With these transfers made, the statistics are as follows:

	Outstanding	Superior	Mediocre & inferior
Social disciplines	46	172	457
Mathematics and natural sciences	39	153	226
Humanities	43	140	351



along with a greater number from the lower ranks, the numbers in the two groups being roughly proportional to the general distribution of ranks in all departments.

TABLE II

UNDERGRADUATE MAJORS, BY RANKS, IN THE LIBERAL ARTS COLLEGE  
OF A MIDDLE-WESTERN STATE UNIVERSITY \*

	Number in top 32% of class	Number in lower 68% of class
Social disciplines	48	104
Mathematics and natural sciences	19	51
Humanities	53	83
Vocational subjects	27	66

\* Data on a sample of 458 graduates in the classes of 1938 and 1946. Seven of the students in the sample were unclassified. For inclusions under "social disciplines" and "humanities," see notes to Table I.

Standardized objectively scored examinations commend themselves as free from some of the obvious incomparability of academic grades in different institutions. The Graduate Record Examinations sponsored by the Carnegie Foundation for the Advancement of Teaching have yielded the largest bodies of data on performance of both undergraduate and graduate students on the same tests. Their results, however, are thus far of very limited significance in relation to the question of the inherent quality of the student bodies of social science departments. Of the several forms of tests offered by the Graduate Record Office, relevant norms are thus far available only for the so-called profile tests which were first introduced in 1938.<sup>7</sup> The profile tests consist of tests of achievement in seven subject-matter fields, and an eighth test known as the "verbal factor" test. The seven areas of knowledge tested are mathematics, physics, chemistry, biological sciences, social studies,<sup>8</sup> literature, and fine arts.

As might be expected, students majoring in a given field tend to make the highest scores on the test covering that field, comparatively high scores in closely related fields, and lower scores in more remote fields. The average scores of students majoring in physics, chemistry, or mathematics are more conspicuously high in these respective parts of the examination than are the scores made by students of one of the social disciplines on the social studies test. This could be predicted from the fact that the tests in the sciences first mentioned draw upon the student's skill in applying some very specific techniques in which he has been trained, while the social studies test is inevitably composed largely of factual

questions relating to subjects which are taught in a half-dozen or more different departments. The authors of the tests are not to be blamed for this situation, which arises from the nature of the curricula in these departments.

A few selected averages for senior men in eastern liberal arts colleges will illustrate the point.<sup>9</sup> In Table III the mean scores for students majoring in given subjects have been expressed as deviations from the mean scores of students in all fields. In order to make major differences more readily visible, the deviations shown in the table are in units of 10 points on the scale, deviations of 5 points or less being shown as zero. History students made the best average score on the social studies test, about 70 points above the general norm for this test. Government students made the next best showing, with about 50 points; students of economics and sociology

TABLE III

GRADUATE RECORD EXAMINATION PROFILE SCORES OF SENIOR MEN IN  
EASTERN LIBERAL ARTS COLLEGES, BY MAJOR FIELDS \*

Major field	Deviation in units of 10 scale points of mean score of those in given major field from mean score of all students on each test				
	Mathematics	Physics	Social studies	Literature	Verbal factor
All fields	0	0	0	0	0
Economics	-1	-2	+1	-2	-1
Government	-3	-5	+5	0	0
History	-4	-5	+7	+3	+1
Psychology	-1	0	-2	-1	0
Sociology	-6	-4	+1	0	0
Literature	-5	-4	+1	+8	+4
Chemistry	+8	+10	-4	-2	0
Mathematics	+12	+5	-3	-2	0
Physics	+11	+15	-1	-2	+4

\* Data from "Graduate Record Examination Individual Report Chart," based on tests given about 1940.

did not score perceptibly better on the social studies test than did students majoring in literature, all of them averaging about 10 points above the general norm. On the other hand, the mean scores of majors in mathematics and physics exceeded the general averages on the tests in their respective fields by about 120 and 150 points. From these figures, the only inference germane to the present discussion is that achievement in mathematics and natural sciences is more readily measurable by standardized tests than achievement in social disciplines.

Turning to the scores on the verbal factor test, we find

<sup>7</sup> The recently developed Graduate Aptitude Test, now in process of standardization, should be more revealing of the general abilities in which we are interested.

<sup>8</sup> This test was specifically entitled "History, Government and Economics" but is cited thus in Graduate Record Office publications.

<sup>9</sup> The data in Tables III and VI are from tests given about 1940; but inspection of more recent unpublished data from the same tests reveals no reason for qualifying the foregoing argument. Data for women students and for students in middle-western colleges conform to essentially the same patterns.

physics majors tied with literature majors for first place, averaging some 40 points above the general mean; none of the other groups shown differ from the norm by more than about 10 points in either direction. The superiority of physics majors can doubtless be attributed to the fact that they are, as the data in Table I indicated, highly selected for generally high scholastic standing; while the scores of literature majors presumably partly reflect the highly verbalized nature of their studies. Hence, although the verbal factor test scores of individuals are said to correlate positively with scores on various other tests of general scholastic ability, the differences between the norms for students of social and other disciplines throw no clear light on the comparative potential ability of the several groups.

To sum up the findings thus far presented, it appears that while undergraduates majoring in social disciplines are relatively less highly selected for general scholastic achievement than those majoring in the natural sciences, there are in absolute numbers at least as many high-ranking students in the first group as in the second. By high-ranking students we refer to those whose average grades in all of their college courses are high; we assume that ranking in the top decile or even in the top third of one's class is indicative of relatively high intellectual capacity and adequate motivation. If this assumption is correct it follows that there is a comparatively adequate supply of talent among the undergraduates from whom graduate students of social science are recruited.

#### THE DISTRIBUTION OF ABILITY AMONG GRADUATE STUDENTS

If the graduate departments of social sciences suffer from a lack of innately able students, the lack must be attributed to the process by which graduate students are recruited and selected, and not to a dearth of ability among those who concentrate in related fields as undergraduates in some of the leading liberal arts colleges. But as a matter of fact, there is evidence to support the belief that a majority of the graduate students in social disciplines are not greatly inferior in previous scholastic achievement, and presumably in innate ability, to most of those in natural sciences.

Table IV shows the distributions by undergraduate scholastic standing of those graduates of the five colleges previously cited who entered various departments of graduate or professional schools. In this table it is seen that of the 148 "outstanding" college graduates in the sample, 27 became graduate students in social disciplines. About as many, namely 26, became graduate students of mathematics or natural sciences. Graduate departments of the humanities claimed 13; law schools

13, medical schools 8, and graduate schools of business 4. Of the 681 "outstanding" and "superior" students who stood in roughly the top third of their graduating classes, 61 became graduate students of social disciplines, 89 of mathematics and natural sciences, 38 of the humanities, 73 of law, 49 of medicine, and 28 of business administration. While the natural sciences drew more heavily from this group of students than did the social disciplines, the difference of numbers is not overwhelming. Moreover, the data do not bear out the widespread assumption that the law, medicine, and business pre-empt lions' shares of the high-ranking college graduates. Keeping in mind that graduates of the particular colleges included in our sample probably enjoy on the average more attractive opportunities to enter business or the legal and medical professions than do those of most other colleges, the fact that the number of high-ranking graduates pursuing advanced work in social disciplines compares so favorably with the numbers entering the former vocations is especially significant.

TABLE IV  
GRADUATES OF SELECTED COLLEGES, BY RANKS, BY OCCUPATIONS OR POSTGRADUATE STUDIES PURSUED

Occupation or field of graduate study	Total	Out-standing <sup>a</sup>	Superior <sup>b</sup>	Mediocre & inferior <sup>c</sup>
Total	1999 <sup>e</sup>	148	533	1308
No graduate study reported	1095 <sup>b</sup>	38	248	805
Occupation not reported <sup>f</sup>	583 <sup>g</sup>	17	155	409
In business	201 <sup>h</sup>	5	34	161
Teaching	71	4	16	51
In other occupations	240 <sup>h</sup>	12	43	184
Attending graduate schools of arts and sciences	333 <sup>i</sup>	66	122	143
Social disciplines <sup>d</sup>	117	27	34	56
Mathematics and natural sciences	123 <sup>k</sup>	26	63	33
Humanities <sup>e</sup>	93 <sup>k</sup>	13	25	54
Attending vocational or professional schools	571 <sup>h</sup>	44	163	360
Business administration	95 <sup>k</sup>	4	24	66
Law	159 <sup>h</sup>	13	60	85
Medicine	120 <sup>h</sup>	8	41	70
Other schools	197 <sup>h</sup>	19	38	139

<sup>a, b, c, d, e</sup> See corresponding notes to Table I.

<sup>f</sup> Some of these may have attended graduate schools.

<sup>g</sup> Including 10 of unspecified rank.

<sup>h</sup> Including 2 of unspecified rank.

<sup>i</sup> Including 4 of unspecified rank.

<sup>j</sup> Including 1 of unspecified rank.

Questionnaire responses from samples of present and former graduate students in social disciplines and in mathematics and natural sciences tend to confirm the foregoing findings which are drawn from the canvass of graduates of selected colleges. Table V presents data

on the high-school and college scholastic honors reported by the graduate students. A great majority of the graduate students in both fields had demonstrated outstanding scholarship while still in high school: 71 percent in the social disciplines group and 76 percent in the natural science group had stood in the top 10 percent of their high-school classes. It would be expected of course that more than 10 percent of all college graduates would come from the top decile of high-school graduates, but probably not as large a proportion as 70 percent. Unpublished data from a large eastern state indicate that only about 25 percent of college freshmen stood in the top decile of their high-school classes. Our own data show, incidentally, that of the 412 graduate students of social disciplines who were in the top decile in high school, 56 percent were also in the top decile in college; while of 435 natural science graduate students who were in the top decile

TABLE V

SCHOLASTIC HONORS WON IN HIGH SCHOOL AND COLLEGE BY GRADUATE STUDENTS OF SOCIAL DISCIPLINES AND NATURAL SCIENCES\*

Honors reported	Percentage of all graduate students who received specified honors		Percentage of Ph.D. holders who received specified honors	
	Social disciplines	Mathematics and natural sciences	Social disciplines	Mathematics and natural sciences
<i>High-school honors</i>				
Valedictorian	12	19	—	—
Ranked in top 10% of class	71	76	—	—
Received other scholastic honor (not in top 10%)	4	2	—	—
No honors reported	25	22	—	—
<i>College honors</i>				
Valedictorian	4	7	4	7
Ranked in top 10% of class <sup>b</sup>	44	67	62	76
Received other scholastic honor (not in top 10%)	20	12	13	11
No honors reported	36	21	25	13

\* Returns were tabulated from 581 present and former graduate students in social disciplines and 575 in mathematics and natural sciences. The former students had been in residence or received advanced degrees since 1935. These groups included 92 and 139 Ph.D.'s, respectively. Questionnaires were distributed through the graduate schools of Harvard, Princeton, and the Universities of California, Chicago, Iowa, Michigan, and North Carolina. As a follow-up canvass of nonrespondents is still in progress, it will only be asserted here that there appears to be no reason to suspect serious bias in comparisons between the two groups.

<sup>b</sup> Including students reporting membership in Phi Beta Kappa or Sigma Xi, as well as those stating explicitly that they stood in the top 10%.

in high school, 75 percent were also in the top decile in college. One is tempted to infer from this that future natural scientists exhibit their aptitudes more consistently, beginning at an earlier age, than those who are destined to do advanced work in social disciplines.

TABLE VI

GRADUATE RECORD EXAMINATION PROFILE SCORES OF FIRST-YEAR MEN GRADUATE STUDENTS IN EASTERN UNIVERSITIES, BY MAJOR FIELDS\*

Major field	Deviation in units of 10 scale points of mean score of those in given field from mean score of all students on each test				
	Mathematics	Physics	Social studies	Literature	Verbal factor
All fields	0	0	0	0	0
Economics	0	-3	+6	-2	+1
Government	-5	-4	+5	-3	-2
History	-5	-6	+10	+4	+1
Psychology	-2	0	-3	-3	-2
Sociology	-5	-5	+4	0	-1
Literature	-5	-6	+1	+10	+5
Chemistry	+9	+12	-4	-5	-2
Mathematics	+15	+7	-2	-3	+1
Physics	+14	+16	-4	-7	-2

\* See notes to Table III.

At the undergraduate college level, the percentage of future natural science graduate students receiving honors was noticeably higher than that of future graduate students in social disciplines. Of the former, 67 percent stood in the top deciles of their classes; of the latter, 44 percent. The discrepancy is, however, relatively less among those in the two groups who had received the Ph.D. degree; of these 76 and 62 percent respectively came from the top tenth of graduates of their colleges. That the difference should be relatively smaller for Ph.D.'s than for graduate students in general is consistent with the fact that a considerably larger fraction of those who enter graduate departments of social disciplines drop out before receiving the doctoral degree.

For reasons already discussed at length with respect to undergraduate students, the results of the Graduate Record Examinations are inconclusive as to the comparative innate abilities or capacities of graduate students in social disciplines and those in other fields. The average "profiles" of first-year graduate students, shown in Table VI, approximately parallel the profiles of undergraduate seniors, averaging from one-half to one standard deviation higher on the standardized scale. On the verbal factor test, as was the case with undergraduate seniors, the mean scores of first-year graduate men in various departments of eastern uni-



versities show only slight dispersion and no consistent patterning that would justify imputing more "general intelligence" or general scholastic aptitude to students in certain broad fields.

Although not relevant to the question of the general ability of students, it is worthy of note that on the test in mathematics, none of the groups of graduate students in social disciplines made average scores above the norm for all graduate students, and only those in economics equalled the general norm. The average scores of graduate students in government, history, and sociology were as low as those of students of literature. These facts bespeak a low level of preparation for work in any field of social science in which quantitative methods of research are applicable.

## THE PROBLEM OF DILUTION

Up to this point we have stressed the fact that at both undergraduate and graduate levels impressively large numbers of high-ranking students are majoring in social disciplines. Only casual reference has been made to the more generally recognized fact that student bodies in these departments are diluted by large numbers of students whose scholastic performance is undistinguished. This is a fact which must be faced in any plan for raising standards of scientific training in the social fields. In Table VII the distributions of

TABLE VII

PERCENT DISTRIBUTIONS BY UNDERGRADUATE RANKS OF UNDERGRADUATE AND GRADUATE STUDENTS MAJORING IN SOCIAL DISCIPLINES AND IN NATURAL SCIENCES<sup>d</sup>

	Total, all ranks	Out- standing <sup>a</sup>	Superior <sup>b</sup>	Mediocre & inferior <sup>c</sup>
<i>Social disciplines</i>				
Undergraduate majors	100	7	25	68
Graduate students	100	23	29	48
<i>Mathematics and natural sciences</i>				
Undergraduate majors	100	10	37	53
Graduate students	100	21	51	28

<sup>a</sup>, <sup>b</sup>, <sup>c</sup> See corresponding notes to Table I.

<sup>d</sup> Based on data given in Tables I and IV.

social disciplines and natural science students by academic ranks are compared in terms of percentages. Even in the graduate schools nearly one half of the majors in social disciplines come from the lower two thirds of their undergraduate classes. The statistics support the casual observation of a prominent university department head: that man for man, the best social science graduate students are just as bright as the best graduate students of natural sciences, but the social sciences have too many

grade "C" men and not enough of grade "B." The effects of this situation upon the character and quality of instruction need hardly be pointed out.

The character of undergraduate courses in social disciplines is likewise very much influenced by the fact that a large part of the enrollment, including both major students and those taking only one or a few courses, consists of students who have no intention of pursuing advanced studies in the social fields. Comparatively few undergraduates major in natural sciences—and especially in physical sciences—unless they intend to follow scientific or technical vocations. Of the graduates of five colleges whose records we have analyzed, only one out of seven who majored as an undergraduate in social disciplines continued these studies in graduate school. By contrast, about 30 percent of those majoring in mathematics or natural sciences went on to graduate study in one of those subjects, and about another 20 percent entered schools of engineering or medicine, so that in all approximately one half of the undergraduate natural science majors were looking forward to applying what they were learning in their professional careers.<sup>10</sup> Under these circumstances it is not surprising that undergraduate instruction in the social disciplines is less sharply directed toward mastery of certain definite and well-recognized skills and bodies of knowledge. The consequent unevenness of preparation of students beginning graduate study in the social sciences should not be mistaken for lack of innate ability or general scholastic aptitude.

## CONCLUSION

Altogether, the fragmentary and circumstantial evidence which we have assembled points rather consistently to the conclusion that any serious deficiencies which may be observed in the advanced training of social scientists in American graduate schools can not be dismissed as the inevitable consequences of a great scarcity of "good material" in the form of graduate students of high general intellectual ability. Given large numbers of very able students majoring in social disciplines in undergraduate colleges—including colleges of outstandingly high academic standards—and with a considerable number of these now going on to graduate schools, the problem of how to train some of the ablest to be more effective research workers in social science deserves a high place on the order of academic business.

<sup>10</sup> Almost identical estimates of proportions of undergraduate majors going on to graduate school can be derived from nation-wide enrollment figures for 1941-42 compiled by C. S. Marsh and published by the American Council on Education in *Higher Education and National Defense* (Bulletin No. 26, Washington, April 30, 1942).

# AGRICULTURAL ECONOMICS RESEARCH IN THE UNITED KINGDOM

by R. G. Bressler, Jr.

THE SIXTH International Conference of Agricultural Economists was held at Dartington Hall, Totnes, England on August 28–September 6. Since the last meeting of this group was in 1938, a main purpose of the 1947 meeting was to reestablish connections broken by the war and to lay plans for the future. Major topics of discussion included agricultural population movements and population pressure, wartime changes in agriculture and needed postwar adjustments, and the effectiveness of market mechanisms and government controls in solving domestic and international problems. In spite of the fact that attendance was limited to invited delegates, nearly 100 representatives from some 25 countries attended the sessions. The United States sent a group of 20 men, including the writer, staff member of the Council's Committee on Agricultural Marketing Research. Following the Conference, three weeks were spent interviewing agricultural economists at a number of Agricultural Colleges, the Ministries of Food and Agriculture, and officials of private companies in England and Scotland, in an effort to explore the present status of agricultural economics research with particular reference to agricultural production and marketing problems.

The early developments of agricultural economics research in the United Kingdom, as in the United States, were primarily in the field of farm management. This emphasis was encouraged during the 1920's by government programs to guarantee prices of farm products at cost-of-production levels and to encourage the production of such crops as sugar beets through subsidies, for these programs were based in large measure on the findings of the farm management studies. While important work has been carried on in such fields as agricultural marketing, prices, and tenure, farm management has continued in a dominant position. The agriculture of Great Britain has been carefully described with respect to such factors as type-of-farming and size of business, and these data used to select samples for study through such methods as farm management surveys, account books, and farm and enterprise cost records.

The war and postwar programs of controlling and guaranteeing agricultural prices and incomes have continued this emphasis. The number of agricultural econ-

omists has increased, largely through the financial support of the Ministry of Food. Regional economists are attached to most of the agricultural colleges and universities, and these men and their assistants have as their primary responsibility the collection and analysis of data on farm incomes and production costs. Only in a few instances have the colleges been able to free a significant part of their time for other types of agricultural research. As a result, this visitor returned with the impression that the bulk of recent research publications have been devoted to farm management investigations or, more specifically, to farm account book summaries and enterprise cost studies.

It may be of interest to indicate briefly how the results of what the British term "farm costings" are used in the price control programs. With the exception of such seasonal perishables as fruits and vegetables, the prices received by the British farmer for his products are fixed and guaranteed. Each February, representatives of the Ministries of Food and Agriculture meet with representatives from the National Farmers' Union to review national requirements and past and prospective changes in agricultural income, costs, and profits. Summaries based on the regional studies of farm accounts and of enterprise costs, together with national totals for agricultural income, provide the basic data and are used with emphasis on changes in costs and profits rather than on absolute levels. Final determinations are arrived at through a bargaining process, first with respect to desirable future levels of aggregate farm income and then with respect to prices for specific products. Crop prices are thus fixed and guaranteed for 18 months in advance while minimum prices for livestock products are set for additional periods consistent with the production process.

The stress on agricultural prices stems from the desire to increase the domestic production of farm products, of course, and this in turn stems from the balance-of-payments problem. Britain is not attempting, however, to become self-sufficient with respect to food. Before the war they produced, in terms of calories, about 33 percent of their food requirements; this was increased to 45 percent at the wartime peak in 1943–44; present goals call for an increase to 50 percent during the next four or five years.



## COMMITTEE BRIEFS

### ANALYSIS OF EXPERIENCE OF RESEARCH BRANCH, INFORMATION AND EDUCATION DIVISION, ASF

Frederick Osborn (chairman), Leonard S. Cottrell, Jr., Leland DeVinney, Carl I. Hovland, John M. Russell, Samuel A. Stouffer.

Substantial progress has been made on the four volumes which are being prepared under the committee's auspices. The first volume concerns the adjustment of soldiers during Army life; the second is a consideration of combat and its aftermath; the third is a report on experimental studies in communication; and the fourth comprises a series of technical discussions of methodological problems encountered in the work of the Research Branch. According to the present schedule volumes I and III will go to press in February 1948, volume II in April, and volume IV not later than September.

### ECONOMIC HISTORY

Arthur H. Cole (chairman), Earl J. Hamilton, Herbert Heaton, John G. B. Hutchins, Harold A. Innis, Leland H. Jenks, Edward C. Kirkland, Frederic C. Lane, Robert Warren.

Two new grants for research concerned with the role of entrepreneurship in American economic development—one of the committee's four areas of concentration—were made by the committee at a meeting in New Haven in September. A grant to Clarence H. Danhof of the School of Public and International Affairs at Princeton University has provided for intensive work on his study of agricultural entrepreneurship during the mid-nineteenth century. A joint grant to Kent T. Healy and Harold F. Williamson of Yale University, who are directing a small group in research on the nature of entrepreneurship in the nonferrous metal industries of Connecticut, has enabled them to expand their project through collaborative study with Theodore E. Marburg of Princeton University.

### HOUSING RESEARCH

Richard U. Ratcliff (chairman), Howard G. Brunsman, Nicholas J. Demerath, Ernest M. Fisher, John M. Gaus, Robert B. Mitchell, Arthur M. Weimer, Louis Wirth, Coleman Woodbury; *staff*, Gerald Breese.

At a meeting on October 9-11 the committee agreed to proceed with the preparation of four research planning memoranda. Of these one on "Housing Standards" will be prepared by Svend Riemer of the University of Wisconsin, one on "Housing Needs and Demand" by A. Benjamin Handler of Washington, D. C., and one on "Housing Environment" by Gerald Breese, the committee's secretary. Negotiations are under way for the preparation of a memorandum on "Production of New Housing."

### LABOR MARKET RESEARCH

J. Douglas Brown (chairman), E. Wight Bakke, Philip M. Hauser, Clark Kerr, Gladys L. Palmer, Carroll L. Shartle, Dale Yoder; *staff*, Paul Webbink.

A volume entitled *The Labor Force in the United States 1890 to 1960* by John D. Durand who is now with the United Nations Population Division will be published by the Council in the early spring. This volume has resulted from a study initiated by the committee and conducted under the direction of the Scripps Foundation for Research in Population Problems with the cooperation of the Bureau of the Census.

### MEASUREMENT OF OPINION, ATTITUDES AND CONSUMER WANTS

(Joint with the National Research Council)

Samuel A. Stouffer (chairman), S. S. Wilks (vice-chairman), P. G. Agnew, Edward Battey, Hadley Cantril, Archibald M. Crossley, W. Edwards Deming, Robert F. Elder, George Gallup, Philip M. Hauser, Carl I. Hovland, Paul F. Lazarsfeld, Rensis Likert, D. B. Lucas, Elmo Roper, Walter A. Shewhart, Frank Stanton, C. L. Warwick; *staff*, Elbridge Sibley, Frederick F. Stephan, Philip J. McCarthy.

The committee's program has expanded to include responsibility for coordination of studies on panel methods of interviewing, which have been initiated by the Columbia University Bureau of Applied Social Research with support from the Rockefeller Foundation. The research program which has been planned by the Bureau with the aid of the chairman of the joint committee is closely related to the National Opinion Research Center's newly organized studies of the isolation, measurement, and control of interviewer effects in attitude and opinion research. This program, which was described in the September issue of *Items*, is also under the general supervision of the committee.

The Bureau's studies of the use of panels will be based on extensive data already collected from panels currently operated by organizations engaged in research on consumer wants and public opinion, and on new data which collaborating organizations will collect. Studies will be focused on determining the effects of biases in panel participation and of response conditioning in repeated interviews. Study of the latter problem necessarily depends upon comparison of results obtained by repeated questioning of the same respondents and those obtained from a succession of well matched cross-sectional samples. Investigations will also be directed toward determining the best form of communication with panel members and the advisability of substitution of participants. In addition to studies of these aspects of the use of panels particular attention will be given to examination of the panel process, that is, the analysis of changes in

attitude and opinions of the same individuals over time. An effort will also be made to determine how nearly panel studies can approximate a causal analysis of influences.

#### PACIFIC COAST COMMITTEE ON PRICE POLICIES

John A. Guthrie (chairman), J. S. Bain, Ralph Casady, Jr., Leonard A. Doyle, Ewald T. Grether, Roy W. Jastram, Vernon A. Mund, Robert B. Pettengill.

The committee held its annual meeting and conference in Berkeley on September 4-6. Among the guests were Joel Dean of Columbia University, Lloyd G. Reynolds of Yale University, and William Fellner, Aaron Gordon, and Clark Kerr of the University of California. The first day was devoted to discussion of papers by Mr. Dean and Mr. Gordon entitled "Some Economic Aspects of Price Leadership" and "Issues in the Current Marginal Analysis Controversy," respectively. On the second day Mr. Doyle presented a paper on "Recent and Prospective Competitive Developments in the Light Metals Industries" and Mr. Fellner one on "The Theory of Bilateral Monopoly with Reference to Price Policy and Wage Determination." As in previous years there was opportunity for critical discussion of current research projects of committee members and guests. These discussions have been a notably fruitful feature of the meetings of West Coast personnel concerned with price policy research.

#### PUBLIC LIBRARY INQUIRY

Robert D. Leigh (chairman), Ralph A. Beals, J. Frederic Dewhurst, Donald G. Marquis, Mary U. Rothrock, Richard H. Shryock, Malcolm Willey; *staff*, Robert D. Leigh.

The plans for appraisal of the American public library as a social institution were outlined by the director of the inquiry in the June issue of *Items*. Some 23 specific studies now have been assigned to a research staff recruited from many fields of specialization. The following projects are under way or scheduled for early initiation:

Charles Armstrong of the New York State Education Department will conduct a study of library finance.

Bernard Berelson, Dean of the Graduate Library School at the University of Chicago, is conducting an analysis of studies of reading and library use.

Alice Bryan of the Columbia University School of Library Service is making studies of library personnel.

Lucy M. Crissey also of Columbia University will analyze library school training programs and curricula.

Oliver Garceau, formerly of the University of Maine, is directing studies of the evolution and government of public libraries.

C. DeWitt Hardy of the same university is analyzing the evolution of the library and assisting Mr. Garceau.

Richard H. Heindel, staff associate for the Senate Committee on Foreign Relations, is studying foreign and international library developments.

Otto C. Luening of Columbia University will study the

relation of recordings, musical scores, and record collections to public library service.

James L. McCamy of the University of Wisconsin will study government publications in relation to public libraries.

William Miller, formerly of *Fortune*, will analyze the book and magazine industries in relation to public libraries.

Lillian Orden, formerly of the Bureau of the Budget, will assist Mr. Garceau in the study of library government.

Helen Roberts, formerly with the Commission on the Freedom of the Press, will compile basic library statistics for staff use, and study newer library services and special libraries.

Certain studies will be carried out by private agencies in cooperation with the director of the inquiry and his staff. The University of Michigan Survey Research Center, which is directed by Rensis Likert, is making a study of library use and community service through intensive interviewing of sample populations in selected communities. A study of library processes in institutions of varying size is being carried out by Nejelski and Company under the direction of Watson O'D. Pierce, formerly of the National Institute of Industrial Psychology in London. A study of the nontheatrical film in relation to public libraries will be made by Gloria Waldron of the Twentieth Century Fund.

#### SOURCE BOOK OF HISTORICAL STATISTICS

(Advisory to the Bureau of the Census)

J. Frederic Dewhurst (chairman), Shépard B. Clough, Arthur H. Cole, Morris A. Copeland, Ernest S. Griffith, Edward P. Hutchinson, Stacy May, Walter L. Mitchell, Jr., Amos E. Taylor, Harold F. Williamson; *staff*, A. Benjamin Handler.

The source book, *Historical Statistics of the United States*, prepared by the Census Bureau with the aid of the committee and its staff, should be ready for distribution from the Government Printing Office early in 1948. This volume represents a first attempt to assemble comprehensive economic and social statistics for the United States from 1789 and to present them in readily available form. As a reference source comparable with the *Statistical Abstract* the volume should be a valuable aid to historians and other social scientists and to government and business personnel. The present edition is a preliminary one; plans for amplification, improvement, and publication of a second edition are being made. Mr. Handler will continue to expedite the compilation and annotation of additional series, mainly from private sources. It is expected that the revised edition will be published within three to five years, and that subsequent revisions will be issued at intervals of perhaps ten years.

#### WORLD AREA RESEARCH

Robert B. Hall (chairman), Ralph L. Beals, Wendell C. Bennett, W. Norman Brown, Donald C. McKay, Geroid T. Robinson, Walter L. Wright, Jr.; *staff*, Charles Wagley.

A national conference on the study of world areas was held on November 28-30 at the Faculty Club of Columbia University under the sponsorship of the committee. Donald C. McKay of Harvard University was chairman of the conference, which was made possible by a special grant to the Council from the Carnegie Corporation of New York. The conference was attended by nearly one hundred individuals from the major area study centers in the country and from government bureaus and national foundations. The program of discussion was based to a considerable extent on the conclusions reached in Robert B. Hall's report on the status of area study in the United States (*Area Studies: With Special Reference to Their Implications for Research in the Social Sciences*, Social Science Research Council Pamphlet 3, published in May 1947). Following the recommendations of this study, the conference was primarily con-

cerned with the promotion of area research and the training of competent area personnel for research.

The first day was given to discussion of objectives and methods of interdisciplinary research on world areas. On the second day panel meetings were held on specific areas: Latin America, Europe, Soviet Union, Near East, Southeast Asia and India, Far East. The last day was devoted to discussion of problems of area instruction, and of the recommendations of the panel meetings. A more detailed report on the conference will appear in the next issue of *Items*.

At its meeting in November the committee made plans for a fellowship program for the training of area specialists. It is hoped that by January 1 the committee will be able to announce the establishment of area training fellowships for the academic year 1948-49.

## PERSONNEL

### RESEARCH TRAINING FELLOWSHIPS

Since the fall of 1946 The Committee on Social Science Personnel has held quarterly meetings for consideration of applications for research training fellowships, in order to expedite the training plans of candidates whenever possible. The following appointments were made at meetings held in July and October:

Charles Gibson, M.A. University of Texas, Ph.D. candidate University of Texas, History, for study of sixteenth century Spanish policies toward native social institutions in Mexico

Robert H. Johnson, M.S. Syracuse University, Ph.D. candidate Harvard University, Political Science, for completion of a doctoral dissertation on the role of the United States in the United Nations Relief and Rehabilitation Administration

Daniel R. Miller, M.A. George Washington University, Ph.D. candidate Stanford University, Psychology, for completion of a doctoral dissertation on the relation of level of aspiration to causes of five types of personality disorders

Fred L. Strodtbeck, M.A. Indiana University, Ph.D. candidate Harvard University, Sociology, for training in the Department of Social Relations

James Watson, M.A. University of Denver, Ph.D. candidate Columbia University, Political Science, for completion of a doctoral dissertation on the structure and development of the Russian Commissariat of Foreign Affairs (conditional upon Mr. Watson's obtaining a Russian visa)

Theodore A. Wertime, M.A. American University, Ph.D. candidate Johns Hopkins University, History, for completion of a doctoral dissertation on the role of the French iron and steel industry in the French Revolution

The committee also granted extensions of demobilization and other awards made during 1945-46 to the following fellows of the Council: Maury A. Bromsen, Harvard University; Samuel Davis, University of Missouri; Harry Eisenpress, Columbia University; Alex Inkeles, Columbia University; Tamotsu Shibutani, University of Chicago.

### APPOINTMENTS TO COUNCIL COMMITTEES

Willard C. Olson of the University of Michigan and Joseph J. Spengler of Duke University have been named to the Committee on Grants-in-Aid. The other members of this committee are Blair Stewart (chairman), Paul W. Gates, and Kimball Young.

Frederick Eggan of the University of Chicago has been appointed to the Committee on Social Science Personnel which has charge of the Council's research training fellowship program. The remaining members of this committee are Leonard S. Cottrell, Jr. (chairman), Glen Heathers, Philip E. Mosely, Elbridge Sibley, and Paul Webbink.

The Pacific Coast Committee on Social Statistics has been reconstituted under the chairmanship of Davis McEntire of the University of California at Berkeley. George Kuznets and Dorothy S. Thomas of that university, Maurice I. Gershenson of the California State Department of Industrial Relations, William Robinson of the University of California at Los Angeles, and Calvin F. Schmid of the University of Washington are the other members of the committee.

### COUNCIL DIRECTORS

At the annual meeting of the board of directors of the Council held in September, J. Robert Oppenheimer, Director of the Institute for Advanced Study, was elected a director-at-large for the two-year term 1948-49. Robert B. Hall of the University of Michigan, Frederick Osborn of New York City, and Ralph W. Tyler of the University of Chicago were re-elected directors-at-large for the same term.



## ANNOUNCEMENTS

### GRANTS-IN-AID

Grants-in-aid of current research projects are available for 1948-49 to mature social scientists who are permanent residents of the United States or Canada. These grants have been offered annually by the Council since 1926 primarily to assist members of the staffs of institutions which can not provide adequate funds for social science research. The grants are designed to aid in completing rather than initiating projects and ordinarily do not exceed \$1,000. The closing date for receipt of applications for 1948-49 is January 15, 1948. Inquiries should be addressed to Miss Laura Barrett, Secretary to the Committee on Grants-in-Aid, at the New York office of the Council.

### NATIONAL FELLOWSHIPS IN ECONOMIC HISTORY

Under the auspices of the Council's committee in this field, a limited number of fellowships in economic history are available for 1948-49 to students in the United States and Canada who have completed at least one full year of graduate study and who have indicated their intention to make teaching or research in economic history, or the historical aspects of an applied field of economics, a major interest. Such students must be preparing or planning to prepare doctoral dissertations on an important topic in economic history. Some preference will be given to applicants whose work bears upon one of the four fields embraced by the committee's research program, namely, the role of government in American economic development, the comparable role of entrepreneurship, the evolution of the corporation in the United States, and the history of American banking. Applications must be filed on or before March 1, 1948. Application forms may be secured from Miss Laura Barrett at the New York office of the Council.

### JOINT FELLOWSHIPS IN THE NATURAL AND SOCIAL SCIENCES

By request of the National Research Council and the Social Science Research Council the Carnegie Corporation has provided funds for postdoctoral fellowships involving training in both a natural and a social science. For natural scientists with a doctor's degree and achievement in

research, the fellowship will permit two years of supplementary training in a social science. Social scientists with similar qualifications must plan for two years training in a supplementary natural science. The opportunity thus provided for a few mature scholars of high quality is based upon recognition of the social problems arising from technological advances and on the conviction that social science techniques have applicability in some fields of natural science.

The fellowships will be open to citizens of the United States who hold the Ph.D. in a natural or social science, who have demonstrated their professional competence by their graduate records, theses, and postdoctoral research. Stipends will range from \$2,500 to \$5,000 per year. Candidates should be nominated by a responsible officer of the institution conferring the doctorate or with which there is present affiliation. The first awards will be announced about March 15, 1948. Applications or inquiries should be addressed to the Fellowship Office of the National Research Council, 2101 Constitution Avenue, Washington 25, D.C.

The Administrative Board in charge of the program consists of Hugh S. Taylor (chairman), Detlev W. Bronk, Carlyle Jacobsen, Robert K. Merton, E. G. Nourse, J. Robert Oppenheimer, and Donald Young.

## PUBLICATIONS

### RECENT SSRC BULLETINS AND PAMPHLETS

*The Reduction of Intergroup Tensions: A Survey of Research on Problems of Ethnic, Racial, and Religious Group Relations*, Bulletin 57, by Robin M. Williams, Jr. August 1947. Pp. 164. \$1.75.

*The Use of Personal Documents in History, Anthropology and Sociology*, Bulletin 53, by Louis Gottschalk, Clyde Kluckhohn, and Robert Angell. 1945; second printing November 1947 (photolitho-printed reproduction). Pp. 257. \$1.50.

*Research on Wages: Report of a Conference Held on April 4-5, 1947 at the Yale Labor and Management Center*, Pamphlet 4, by Lloyd G. Reynolds. August 1947. Pp. 47. 50 cents.

All numbers in the Council's bulletin and pamphlet series are distributed from the New York office of the Council.

## SOCIAL SCIENCE RESEARCH COUNCIL

230 PARK AVENUE, NEW YORK 17, N. Y.

*Incorporated in the State of Illinois, December 27, 1924, for the purpose of advancing research in the social sciences*

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